Bangalore Electricity Supply Company Limited

(Wholly owned by Government of Karnataka Undertaking)

TECHNICAL SPECIFICATION FOR HT GUY STRAIN INSULATORS

(NO. 15 STRAIN INSULATORS HT Guy Strain)

1.0 SCOPE:

This specification covers the requirements and tests for strain type Guy porcelain insulators (No. 15) used in the electrical distribution system.

2.0 STANDARD:

The insulators offered shall confirm in all respects to IS: 5300-1969 with latest amendments if any.

3.0 MATERIAL:

a. 140 x 85 mm size guy strain insulator conforming to Designation 'C' type of IS: 5300-1969.
b. The porcelain of the insulators shall be sound, free from defects, thoroughly vitrified and smoothly glazed. The glaze should not be depended upon for insulation and shall as for as practicable cover all the exposed porcelain parts of the insulator.
c. The design of the insulators shall be such that stresses due to expansion and contraction in any part of the insulator shall not lead to deterioration. The glaze shall be brown in colour. The glaze shall cover the entire porcelain surface parts except those areas that serve as supports during firing or otherwise required to be left unglazed.
d. The insulators shall have the electrical and mechanical characteristics as per clause 4.0.

4.0 TECHNICAL PARTICULARS:

SL. No.	Particulars	No. 15 Strain Insulator (4 Corners)
1.	Designation of Insulators	Type C
2.	Length (mm)	140
3.	Dia meter (mm)	85
4.	Cable hole Dia (mm)	25
5.	Min. failing load (KN)	88
6.	Creepage distance (mm)	57
7.	Dry one minute Power frequency withstand voltage (KV rms)	27
8.	Wet one minute Power	13

	frequency withstand voltage (KV rms)	
9.	Overall dimensions	140 x 85 mm

The dimensions of guy strain insulators shall be in accordance with designation 'C' of IS: 5300 which is essential from the point of interchangeability.
Tolerance of Dimensions : ±5%

5.0 MARKINGS:

5.1 Each insulator shall be marked legibly and indelibly with the following. The marking shall be durable and shall be printed before firing.

a. Manufacturer's Brand name or Trade name.
b. Year of manufacture.
c. The letter of ""BESCOM".

6.0 TESTS:

6.1 Type tests:

The following shall constitute the type tests and these shall be considered in the order given below.

a. Visual Examination.
b. Verification of dimensions.
c. Temperature cycle test.
d. Dry one-minute power frequency withstand test.
e. Wet one-minute power frequency withstand test.
f. Mechanical strength tests.
g. Porosity test.

For the type tests a total of three numbers of insulators shall be selected from a lot size of 10,000 Nos. and subjected to the type tests.

6.2 ACCEPTANCE TESTS:

The following shall constitute the acceptance tests and shall be conducted in the order given below:

a. Verification of dimensions
b. Temperature cycle test
c. Mechanical strength tests
d. Porosity test

6.3 The No. of insulators to be selected at random from the lot for acceptance tests shall be in accordance with the following table.

Number of insulators to be selected		
SL. No.	**Lot Size**	**Sample Size**
1.	Up to 500	6
2.	501 to 800	12
3.	801 to 3200	16

4.	3201 to 8000	18
5.	8001 and above	20

a. If additional insulators are required, these shall also be selected at random.
b. The samples selected in accordance with the above table shall be divided into two equal parts and subjected to tests as indicated below:

SL. No.	Tests (S)	Part (S) of samples
1.	Verification of dimensions and Temperature cycle test	Both parts
2.	Mechanical strength test.	First Part
3.	Porosity test.	Second Part

c. If more than one insulator fails to comply with any of the acceptance tests the lot shall be rejected.
d. If one insulator fails to comply with any of the tests a fresh quantity equal to twice the quantity shall be subjected to retesting. The retesting shall comprise the test in which the failure occurred preceded by those tests, which may be considered to have influenced the results of the original tests. If no failure occurs in the re-test the lot shall be accepted.

6.4 **Routine test**: Visual examination of every insulator shall be carried out as routine test.

7.0 PACKING:

The insulator shall be securely packed in baskets/gunny bags with loose grass to withstand rough handling during transit and storage.

8.0 Guaranteed Technical particulars shall be furnished as per the enclosed Annexure. The successful bidder shall obtain the GTP and drawing approval from QS&S section before mass production.

General Manager (Ele)
QS&S BESCOM

Annexure-

Guaranteed Technical Particulars of No. 15 Strain insulator			
Sl. No	**Description**	**Unit**	**Bidders Offer**
1	Type of insulator		
2	Standard according to which the insulators manufactured and tested		
3	Name of material used in manufacture of the insulator with class/grade		
4	Colour		
5	Electrical Characteristics:		
a	Nominal System Voltage	kV(rms)	
b	Highest System Voltage	kV(rms)	
c	Dry Power frequency withstand voltage	kV(rms)	
d	Wet Power frequency withstand voltage	kV(rms)	
e	Minimum creepage distance	mm	
6	Mechanical Characteristics:		
a	Minimum failing load	kN	
7	Dimensions of insulator	mm	
8	Cable Hole Dia		
9	Weight	Gms	
10	Packing details		
11	Type of packing		
a	No. of insulators in each pack		
b	Gross weight of package		
12	Any other particulars which the bidder may like to give		

Manufacturer seal and Signature